

ORAL PRESENTATION

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Prospective study of 393 adolescent thoracic hyperkyphosis patients treated by the Lyon method

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Background

Unlike scoliosis, there is no alteration in respiratory function with hyperkyphosis [1]. The resulting problems are mainly related to aesthetics and pain. The various conservative orthopedic treatments were discussed at the 7th SOSORT consensus session [2]. Is bracing useful to improve aesthetics and prevent back pain?

Purpose

A retrospective study was presented at the SOSORT Montreal [3]. The good results observed were complemented by a prospective study performed on our entire database of orthopedic medicine between 1998 and 2007.

Methods

The Lyon method includes:

- A reduction with plaster cast for a minimum of 1 month to increase the length of the anterior longitudinal ligament (creep).
- An immobilization in a corrected position by a plexidur 5 points brace worn at minimum during the night.
- A specific physiotherapy.

Results

Conservative treatment was indicated in 393 patients.

- 27% of patients do not accept the proposed treatment or interrupt it spontaneously.
- 23% of patients have a physiological angulation less than 44° at the end of treatment.

- 43% of patients were reviewed two years after removal of the brace.

The initial kyphosis angle was 60.5°.

The final angulation 2 years after removal of the brace was 41°.

Among the 262 patients who performed the full treatment:

- All patients who had pain before treatment were relieved of that pain after treatment began.
- 79% were fully corrected with final angulation < 45°.
- 17% were stabilized with a final angulation between 45° and 55°.
- 11% retained an angle of > 55° and can be considered as treatment failures.

In total, 222 patients were reviewed more than 10 years after removal of the brace. The angle remains stable in 21 cases.

Conclusions and discussion

The Lyon method is difficult for the patient and one-third of patients did not accept it.

Unlike scoliosis, which is stabilized by orthopedic treatment, it is possible to restore a physiological kyphosis in the sagittal plane.

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